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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/585,731 | 01/04/2007 | Suguru Noda | 293481US0PCT | 7215 |
| 22850 | 7590 | 04/30/2010 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | KUNEMUND, ROBERT M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1714 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 04/30/2010 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

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|------------------------------|---------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/585,731 | Applicant(s) NODA, SUGURU | |
| | Examiner Robert M. Kunemund | Art Unit 1714 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/06</u> . | 6) <input type="checkbox"/> Other: ____. |

Claims 8-22 and 26-43 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend upon multidependent claims. See MPEP § 608.01(n). Accordingly, the claims 8-22 and 26-43 not been further treated on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 to 3, 6 to 9, 18 , 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over wo 02/40751 in view of Lee et al (2004/0217434).

The wo 02/40751 reference teaches a method and product of a monocrystalline layer, note entire reference. On a substrate, silicon, a first sacrificial layer is deposited using standard deposition means. Upon this a layer a layer of monocrystalline is

Art Unit: 1714

formed by vapor deposition. The top layer can be silicon. The sacrificial layer is then removed by etching. The sole difference between the instant claims and the prior art is the layers composition. However, the Lee et al reference teaches that the sacrificial layer can be the same material as that deposited, silicon, note page 3. It would have been obvious to one of skill in the art to modify the wo 02/40751 reference by the teachings of the Lee et al reference to use the same materials in order to lower impurities and maintain the same structure.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over wo 02/40751 in view of Lee et al (2004/0217434).

The wo 02/40751 and Lee et al references are relied on for the same reasons as stated, supra, and differ from the instant claims in the substrate composition. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable substrate composition in order to create the desired lattice.

Claims 10 to 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over wo 02/40751 in view of Lee et al (2004/0217434).

The wo 02/40751 and Lee et al references are relied on for the same reasons as stated, supra, and differ from the instant claims in the annealing. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable means to lower defects, annealing in order to create a better uniform layer.

Claims 14 to 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over wo 02/40751 in view of Lee et al (2004/0217434).

The wo 02/40751 and Lee et al references are relied on for the same reasons as stated, supra, and differ from the instant claims in the substrate texture. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable substrate texture in order to form the layers with the needed structure.

Claims 21 to 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over wo 02/40751 in view of Lee et al (2004/0217434).

The wo 02/40751 and Lee et al references are relied on for the same reasons as stated, supra, and differ from the instant claims in the use as a solar cell. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable use as silicon is a known solar cell material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Kunemund whose telephone number is 571-272-1464. The examiner can normally be reached on 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert M Kunemund
Primary Examiner
Art Unit 1714

RMK

/Robert M Kunemund/
Primary Examiner, Art Unit 1714